

What Is Claimed Is:

1. A method for treating graft versus host disease, viral infection, cancer, leukemia, immunodeficiency, or an autoimmune disorder comprising administering to an individual therapeutically effective amounts of:

(a) a first therapeutic agent comprising an antibody which binds to a polypeptide consisting of amino acids -51 to 360 of SEQ ID NO:2; and

(b) a second therapeutic agent selected from the group consisting of:

- (i) TRAIL;
- (ii) a tumor necrosis factor;
- (iii) a tumor necrosis factor blocking agent;
- (iv) an immunosuppressive agent;
- (v) an antibiotic;
- (vi) an anti-inflammatory agent;
- (vii) a chemotherapeutic agent; and
- (viii) a cytokine.

2. The method of claim 1, wherein said first therapeutic agent comprises an antibody which binds to a polypeptide consisting of amino acids 1 to 133 of SEQ ID NO:2.

3. The method of claim 1, wherein said antibody is a monoclonal antibody.

4. The method of claim 1, wherein said antibody is a polyclonal antibody.

5. The method of claim 1, wherein said antibody is a chimeric antibody.

6. The method of claim 1, wherein said antibody is a humanized antibody.

7. The method of claim 1, wherein said antibody is a single-chain Fv antibody.

8. The method of claim 1, wherein said antibody is an Fab antibody fragment.

9. The method of claim 1, wherein said first and second therapeutic agents are administered to the individual at the same time.

10. The method of claim 1, wherein said first and second therapeutic agents are administered to the individual at different times.

11. The method of claim 1, wherein said second therapeutic agent is TRAIL.

12. The method of claim 1, wherein said tumor necrosis factor blocking agent comprises an antibody which binds to a protein selected from the group consisting of:

- (a) TNF- α ;
- (b) TNF- β ;
- (c) TNF- γ ;
- (d) TNF- γ - α ; and
- (e) TNF- γ - β .

13. The method of claim 1, wherein said immunosuppressive agent is selected from the group consisting of:

- (a) cyclosporine;
- (b) cyclophosphamide;
- (c) methylprednisone;
- (d) prednisone;
- (e) azathioprine;
- (f) FK-506; and
- (g) 15-deoxyspergualin.

14. The method of claim 1, wherein said cytokine is selected from the group consisting of:

- (a) IL-2;
- (b) IL-3;
- (c) IL-4;
- (d) IL-5;
- (e) IL-6;
- (f) IL-7;
- (g) IL-10;
- (h) IL-12;
- (i) IL-13;
- (j) IL-15; and
- (k) IFN- γ .

15. A composition comprising:

(a) a first therapeutic agent comprising an antibody which binds to a polypeptide consisting of amino acids -51 to 360 of SEQ ID NO:2; and

(b) a second therapeutic agent selected from the group consisting of:

- (i) TRAIL;
- (ii) a tumor necrosis factor;
- (iii) a tumor necrosis factor blocking agent;
- (iv) an immunosuppressive agent;
- (v) an antibiotic;
- (vi) an anti-inflammatory agent;
- (vii) a chemotherapeutic agent; and
- (viii) a cytokine.

5

10 16. The composition of claim 15, which further comprises a pharmaceutically acceptable carrier or excipient.

17. An isolated polypeptide comprising an amino acid sequence at least 90% identical to amino acids 1 to 133 of SEQ ID NO:2;

15 wherein said polypeptide is covalently attached to polyethylene glycol, said polyethylene glycol having an average molecule weight selected from the group consisting of 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10,000, 15,000, and 20,000.

20 18. The polypeptide of claim 17, comprising an amino acid sequence at least 95% identical to amino acids 1 to 133 of SEQ ID NO:2.

19. The polypeptide of claim 18, wherein said amino acid sequence comprises amino acids 1 to 133 of SEQ ID NO:2.

25

20. The polypeptide of claim 17, wherein said polypeptide has an average degree of substitution with polyethylene glycol which falls within a range selected from the group consisting of 1-3, 2-4, 3-5, 4-6, 5-7, 6-8, 7-9, 8-10, 9-11, and 10-12.

30

21. The polypeptide of claim 17, which is produced by a recombinant host cell.

22. The polypeptide of claim 21, wherein said recombinant host cell which is a eukaryotic host cell.

23. The polypeptide of claim 17, which comprises a heterologous polypeptide.

24. The polypeptide of claim 23, wherein said heterologous polypeptide comprises an Fc portion of an antibody.

25. A composition comprising the polypeptide of claim 17 and a pharmaceutically acceptable carrier.

26. An isolated polynucleotide comprising a nucleic acid encoding an amino acid sequence at least 90% identical to amino acids 1 to 133 of SEQ ID NO:2.

27. The polynucleotide of claim 26, comprising a nucleic acid encoding an amino acid sequence at least 95% identical to amino acids 1 to 133 of SEQ ID NO:2.

28. The polynucleotide of claim 27, comprising a nucleic acid encoding amino acids 1 to 133 of SEQ ID NO:2.

29. The polynucleotide of claim 26, comprising a nucleic acid encoding an amino acid sequence at least 90% identical to amino acids 1 to 360 of SEQ ID NO:2.

30. The polynucleotide of claim 29, comprising a nucleic acid encoding an amino acid sequence at least 95% identical to amino acids 1 to 360 of SEQ ID NO:2.

5 31. The polynucleotide of claim 30, comprising a nucleic acid encoding amino acids 24 to 468 of SEQ ID NO:2.

32. The polynucleotide of claim 29, comprising a nucleic acid encoding an amino acid sequence at least 90% identical to amino acids -51 to
10 360 of SEQ ID NO:2.

33. The polynucleotide of claim 32, comprising a nucleic acid encoding an amino acid sequence at least 95% identical to amino acids -51 to
15 360 of SEQ ID NO:2.

34. The polynucleotide of claim 33, comprising a nucleic acid encoding amino acids -51 to 360 of SEQ ID NO:2.

20 35. The polynucleotide of claim 26, further comprising a heterologous polynucleotide.

36. The polynucleotide of claim 35, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

25 37. The polynucleotide of claim 26, wherein said heterologous polypeptide comprises an Fc portion of an antibody.

38. A method of producing a vector which comprises inserting the polynucleotide of claim 26 into a vector.

39. A vector comprising the polynucleotide of claim 26.

40. The vector of claim 39, wherein said polynucleotide is operably associated with a heterologous regulatory polynucleotide.

41. A host cell comprising the polynucleotide of claim 26.

42. The host cell of claim 41, wherein said polynucleotide is operably associated with a heterologous regulatory polynucleotide.

43. A method of producing a polypeptide which comprises culturing the host cell of claim 32 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

44. An isolated polynucleotide comprising a nucleic acid encoding an amino acid sequence at least 90% identical to the amino acid sequence of the mature polypeptide encoded by the cDNA clone in ATCC Deposit No. 97920.

45. The polynucleotide of claim 44, comprising a nucleic acid encoding an amino acid sequence at least 95% identical to the amino acid sequence of the mature polypeptide encoded by the cDNA clone in ATCC Deposit No. 97920.

46. The polynucleotide of claim 45, comprising a nucleic acid encoding the mature polypeptide encoded by the cDNA clone in ATCC Deposit No. 97920.

47. The polynucleotide of claim 44, comprising a nucleic acid encoding an amino acid sequence at least 90% identical to the amino acid

sequence of the complete polypeptide encoded by the cDNA clone in ATCC
Deposit No. 97920.

5 48. The polynucleotide of claim 47, comprising a nucleic acid
encoding an amino acid sequence at least 95% identical to the amino acid
sequence of the complete polypeptide encoded by the cDNA clone in ATCC
Deposit No. 97920.

10 49. The polynucleotide of claim 48, comprising a nucleic acid a
nucleic acid encoding the complete polypeptide encoded by the cDNA clone in
ATCC Deposit No. 97920.

15 50. The polynucleotide of claim 44, further comprising a heterologous
polynucleotide.

 51. The polynucleotide of claim 50, wherein said heterologous
polynucleotide encodes a heterologous polypeptide.

20 52. The polynucleotide of claim 51, wherein said heterologous
polynucleotide encodes an Fc portion of an antibody.

 53. A method of producing a vector which comprises inserting the
polynucleotide of claim 44 into a vector.

25 54. A vector comprising the polynucleotide of claim 44.

 55. The vector of claim 54, wherein said polynucleotide is operably
associated with a heterologous regulatory polynucleotide.

30 56. A host cell comprising the polynucleotide of claim 44.

57. The host cell of claim 56, wherein said polynucleotide is operably associated with a heterologous regulatory polynucleotide.

5 58. A method of producing a polypeptide which comprises culturing the host cell of claim 57 under conditions such that said polypeptide is expressed, and recovering said polypeptide.

10 59. An isolated polypeptide comprising an amino acid sequence at least 90% identical to amino acids 1 to 133 of SEQ ID NO:2.

60. The polypeptide of claim 59, wherein said amino acid sequence is at least 95% identical to amino acids 1 to 133 of SEQ ID NO:2.

15 61. The polypeptide of claim 60, wherein said amino acid sequence comprises amino acids 1 to 133 of SEQ ID NO:2.

20 62. The polypeptide of claim 59, wherein said amino acid sequence is at least 90% identical to amino acids 1 to 133 of SEQ ID NO:2.

63. The polypeptide of claim 62, wherein said amino acid sequence is at least 95% identical to amino acids 1 to 360 of SEQ ID NO:2.

25 64. The polypeptide of claim 63, wherein said amino acid sequence comprises amino acids 1 to 360 of SEQ ID NO:2.

65. The polypeptide of claim 62, wherein said amino acid sequence is at least 90% identical to amino acids -51 to 360 of SEQ ID NO:2.

66. The polypeptide of claim 65, wherein said amino acid sequence is at least 95% identical to amino acids -51 to 360 of SEQ ID NO:2.

5 67. The polypeptide of claim 66, wherein said amino acid sequence comprises amino acids -51 to 360 of SEQ ID NO:2.

68. The polypeptide of claim 59, which is produced by a recombinant host cell.

10 69. The polypeptide of claim 68, wherein said recombinant host cell which is a eukaryotic host cell.

70. The polypeptide of claim 59, which comprises a heterologous polypeptide.

15 71. The polypeptide of claim 70, wherein said heterologous polypeptide comprises an Fc portion of an antibody.

20 72. A composition comprising the polypeptide of claim 59 and a pharmaceutically acceptable carrier.

73. An isolated polypeptide comprising an amino acid sequence at least 90% identical to the amino acid sequence of the mature polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

25 74. The polypeptide of claim 73, which comprises an amino acid sequence at least 95% identical to the amino acid sequence of the mature polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

75. The polypeptide of claim 74, which comprises the mature polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

5 76. The polypeptide of claim 73, which comprises an amino acid sequence at least 90% identical to the amino acid sequence of the complete polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

10 77. The polypeptide of claim 76, which comprises an amino acid sequence at least 95% identical to the amino acid sequence of the complete polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

78. The polypeptide of claim 77, which comprises the complete polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

15 79. The polypeptide of claim 73, which is produced by a recombinant host cell.

20 80. The polypeptide of claim 79, wherein said recombinant host cell which is a eukaryotic host cell.

81. The polypeptide of claim 73, which comprises a heterologous polypeptide.

25 82. The polypeptide of claim 81, wherein said heterologous polypeptide comprises an Fc portion of an antibody.

83. A composition comprising the polypeptide of claim 73 and a pharmaceutically acceptable carrier.

84. An isolated antibody which binds to a polypeptide consisting of amino acids -51 to 360 of SEQ ID NO:2.

5 85. The antibody of claim 84, wherein said antibody is a monoclonal antibody.

86. The antibody of claim 84, wherein said antibody is a polyclonal antibody.

10 87. The antibody of claim 84, wherein said antibody is an Fab antibody fragment.

88. The antibody of claim 84, wherein said antibody is an F(ab')₂ antibody fragment.

15 89. A method for treating a disease or condition selected from the group consisting of:

- (a) cancer;
- (b) inflammation;
- 20 (c) an autoimmune disease; and
- (d) graft v. host disease,

wherein said method comprises administering to an individual a therapeutically effective amount of the antibody of claim 84.

25 90. A composition comprising the antibody of claim 84 and a pharmaceutically acceptable carrier.

91. An isolated antibody which binds to a polypeptide consisting of the amino acid sequence of the complete polypeptide encoded by the cDNA clone contained in ATCC Deposit No. 97920.

30

92. The antibody of claim 91, wherein said antibody is a monoclonal antibody.

5 93. The antibody of claim 91, wherein said antibody is a polyclonal antibody.

94. The antibody of claim 91, wherein said antibody is an Fab antibody fragment.

10 95. The antibody of claim 91, wherein said antibody is an F(ab')₂ antibody fragment.

15 96. A method for treating a disease or condition selected from the group consisting of:

- (a) cancer;
- (b) inflammation;
- (c) an autoimmune disease; and
- (d) graft versus host disease,

20 wherein said method comprises administering to an individual a therapeutically effective amount of the antibody of claim 91.

25 97. A composition comprising the antibody of claim 91 and a pharmaceutically acceptable carrier.